





OBSERVATIONS  
ON  
A NEW PREPARATION OF IRON,  
DESIGNATED  
AQUA CHALYBEATA,

ADDRESSED TO THE MEDICAL PROFESSION

BY

BEWLEY AND EVANS,  
PHARMACEUTICAL CHEMISTS AND APOTHECARIES,  
LOWER SACKVILLE-STREET, DUBLIN.

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## OBSERVATIONS, &c

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THE therapeutical effects of IRON, as a tonic, in promoting the functions of digestion, increasing the force of the circulation, and giving tone and energy to the system, have long been recognised. Universal experience has attested its utility, in the various diseases which arise from, or are attended by, debility or relaxation.

It has been administered in a great variety of forms. Numberless preparations have enjoyed a temporary reputation, and have been subsequently rejected, giving place to others, which have ultimately shared the same fate. Of those at present recognised as officinal, many are

far from being satisfactory, and are liable to objections more or less serious, which are detailed in almost every work on *Materia Medica*. In elucidation, we need only cite some of the observations of Dr. Pereira, in his "*Elements of Materia Medica*," one of the latest and most valuable treatises on the subject.

The *FERRI RAMENTA*, or *IRON FILINGS*, were formerly in general use, but as Dr. P. remarks, (2nd Ed. p. 830,) "the oxidizement of the metal is attended with the evolution of hydrogen gas, and gives rise to unpleasant eructations." This form of exhibition is now seldom adopted.

The *SESQUIOXIDE*, or, as it is generally designated, the *PREPARED*, or *PRECIPITATED CARBONATE*, though still employed, is also likely to be rejected. "Its obvious effects on the body are very slight." (p. 830.) Dr. Christison observes that "the enormous amount of two or three pounds, or more," has been taken in the course of a week; that it is with difficulty dissolved by weak or dilute acids, so that only a small proportion of what is usually taken can come into operation. Many practitioners have complained of

the irregularity of its action, and it is clearly, in general, an inert preparation, compared with other Chalybeates," being "unscientific, and not well fitted for its purpose."\* "In large doses," Dr. Pereira remarks, "it produces nausea, sensation of weight at the pit of the stomach, and sometimes, dyspeptic symptoms." (p. 839.)

The MURIATE, or CHLORIDE, is, in many cases, objectionable, as "it acts as an energetic astringent and styptic, and in large doses as an irritant. The large quantity of free hydrochloric acid, which the tincture of the shops frequently contains, contributes to increase its irritant properties." "In large medicinal doses, it readily disorders the stomach." (p. 843.)

The AMMONIO CHLORIDE, "on account of the small and variable quantity of iron present, is of little value." The TINCTURE "should be expunged from the Pharmacopœia." (p. 845.)

The SULPHATE, though valuable as a styptic, is often, from its "astringent operation," an in-

\* Dispensatory, p. 438.

eligible salt. "In large medicinal doses, it readily excites pain, heat, and other uneasiness at the pit of the stomach, and not unfrequently nausea and vomiting." "Where the long continued use of ferruginous compounds is required, it is less adapted for administration than some other preparations of Iron, on account of its local action on the alimentary canal." (p. 860.)

The MISTURA FERRI COMP. is a valuable preparation, but soon undergoes decomposition. "It should only be prepared when required for use." (p. 862.)

The PILULÆ FERRI COMP. are liable to become so hard, that they produce no medicinal effect; "they should only be made when required for use." (p. 863.)

The TARTRATE or POTASSIO TARTRATE, as "frequently met with," is justly characterized as "an imperfectly prepared compound, in which none, or only part of the sesquioxide of iron is in chemical combination with Bitartrate of Potash. In this state, it is only partly soluble." (p. 866.)



THE ACETATED TINCTURE OF IRON is peculiar to the Dublin Pharmacopœia. As generally prepared, it is of uncertain strength, and liable to decomposition.

THE AROMATIC MIXTURE OF IRON, or HEBERDEN'S INK, is also peculiar to the Dublin Pharmacopœia. It is an extremely uninviting compound, deriving its efficacy rather from the vegetable bitters than from the small quantity of iron which it contains. Dr. Christison condemns it as "unchemical, and unworthy of a place in any Pharmacopœia."\*

Thus, it is evident, objections attach to most of the ordinary preparations of this valuable remedial agent. Whilst some are of variable composition and strength,—others are extremely liable to be decomposed:—others, again, are perfectly insoluble, except in combination with an acid,—are absorbed but in small proportions, varying with the amount of acid in the stomach, and are therefore uncertain and tardy in their effects. Some are apt to disorder the stomach,—whilst others are disagreeable to the taste, and from

\* Dispensatory, p. 432.

their styptic properties, produce an inconvenient or injurious astringent effect on the secreting surface of the alimentary canal.

These circumstances induce us to believe, that we shall not be deemed presumptuous, in introducing our "Chalybeate Water" to the notice of the profession, as a preparation not unworthy of their approbation. It is recommended on the following grounds:—

1. It possesses a *definite and uniform constitution*, and may be kept in a cool place uninjured for years.

2. It not only holds the Iron in *perfect solution*, but in a state of combination, from which the Oxide of Iron is not liable to be precipitated in the stomach, by the presence of acids or alkalies. It is therefore readily and quickly taken up by the absorbents.

3. Being an organic saline solution of Iron, its action is peculiarly mild. It does not derange the stomach, and *not being characterized by astringency*, it does not produce the constipation

of the bowels, which so frequently results from the administration of the Sulphate and Chloride.

4. It is *more agreeable to the taste* than the other preparations of Iron, and being combined with the grateful aromatic of the Orange rind, it will be taken freely, and with pleasure, by patients who are often with difficulty persuaded to swallow such nauseous draughts as the Mist. Ferri. Aromat., Mist. Ferri. Comp., &c.

5. Being highly impregnated with Carbonic Acid, the salutary tonic properties of this gas are combined with those of the Iron. The preparation is thereby rendered *peculiarly grateful to the stomach*, and, like the waters of chalybeate springs, is found to agree well with the digestive organs, when other Chalybeates cannot be borne.

“The Chalybeate Water” generally acts as a mild, yet efficient tonic in the condition of the system designated Anæmia, a state in which the proportion of Fibrine and of Iron contained in the blood are said to be relatively deficient,\* experience having proved that when Chalybeates are

\* Journal des Con. Med. Chir. tom. iv. p. 216.

administered in an eligible form, they possess, beyond any other medicine, the remarkable power of restoring to this fluid a healthy constitution. Whether this effect results from the immediate absorption of the Iron, or from its tonic influence on the nerves and digestive system, under which influence the particles of the blood capable of colorization by respiration become augmented,\* it is found that when Iron is taken for some time in moderate doses, and in a state of combination favourable for the exercise of its characteristic tonic action, the pulse becomes raised; the lips and face, before pallid, assume the complexion of health; the alvine, cutaneous, and urinary secretions are sensibly affected; the functions of innervation and nutrition are strengthened, and the general health is improved.

Of the various diseases so commonly attendant on the cachectic state just described, none are more frequent in the female sex than Chlorosis, Amenorrhœa, Dysmenorrhœa, Hysteria, and other affections attended by derangement of the uterine functions. In these diseases, no preparation of

\* Trousseau et Pidou, *Traité de Thérapeutique*, t. ii. p. 190.

Iron will be found more generally suitable than "The Chalybeate Water." In restoring the secretions to their normal state, the action of the Iron is characterized by the peculiar property of promoting them when deficient, and checking them when inordinate. In various forms of Dyspepsia and Gastralgia, resulting from loss of tone, and unattended by inflammation, or irritation of the stomach, it is often peculiarly useful, as well as in Tic Douloureux and other Neuralgiæ, particularly of the periodic form, in Epilepsy, and in convalescence from disease. In Scrofula, in the early indications of a tendency to Cancer and Phthisis, and other cachectic disorders, its use is attended with beneficial results, counteracting and removing that constitutional debility which is most favourable to the developement of disease.

When prescribing "The Chalybeate Water," the medical practitioner will exercise his discretion, in using conjointly such other remedial measures as the peculiar state of his patient may indicate. Thus in Amenorrhœa, the simultaneous use of Aloetic preparations is generally found beneficial. In excessive mucous discharges, astringents



are commonly used. In Dyspepsia and other affections, the use of mild aperients and aromatics may be advantageous; whilst in Neuralgia, the internal use, or external application of Opium, Aconite, Belladonna, or other narcotics, may lend important aid in subduing pain.

“The Chalybeate Water” and all other ferruginous preparations are obviously contra-indicated in gastro-intestinal irritation and inflammation, in a plethoric habit, or determination of blood to the head, and in all inflammatory diseases.

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Each bottle contains six ounces of Chalybeate Water, and holds in solution *thirteen grains* of Citrate of Iron. It contains, therefore, the same proportion of base, that is, the same quantity of Iron, as six ounces of the Mist. Ferri Comp. (Ph. L. E. and D.) and may be regarded as being of the same strength as that well known preparation. As it is found to agree well with the system, a *wineglassful* may be considered the

ordinary dose for an adult, and may be taken twice or thrice daily; but, from the nature of Chalybeates, it is obvious the medical practitioner must be guided by experience in varying the dose, according to the age, sex, temperament, or state of the patient.

It would be advisable, therefore, to ensure correctness, that medical gentlemen, when ordering "the Chalybeate Water," should particularise the preparation,\* and as usual, specify the quantity to be taken,† and the times of administration.

Should it be taken too freely, a degree of febrile excitement, inordinate action of the vascular system, and pain in the head, (the ordinary symptoms of over-stimulation,) will indicate the propriety of discontinuing it for some time, and resuming its use in diminished quantity.

If it be kept in a cool place, and be not shaken, it will retain a large proportion of gas even after the bottle has been several times opened, and will not lose its medicinal efficacy.

\* Thus, "Mitte Aquæ Chalybeatæ"—or "Solutionis Ferri Citratis effervescentis (a Bewley) phialas——."

† In order to retain as much of the gas as possible, it is better, when giving it in ounce doses, to prescribe "*half a wineglassful*" (semi-eyathum vinos.) rather than two table-spoonfuls, as is usually done.

## TESTIMONIALS.

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*Testimonial from DR. APJOHN, Professor of Chemistry to the  
Royal College of Surgeons, Ireland, &c.*

“I have examined a bottle of Mr. Bewley’s Chalybeate Water, and find it to hold in solution thirteen grains of Citrate of Iron. I consider it a very valuable preparation, inasmuch as it contains one of our most important remedial agents, exhibited in an extremely eligible and elegant form.

“JAMES APJOHN, M. D.

“July 13th, 1842.”

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*From W. T. BRANDE, F. R. S. L. and E., Professor of  
Chemistry to the Royal Institution, &c.*

“I have examined Messrs. Bewley and Evans’ Chalybeate Water, which is a solution of Citrate of Iron in water



highly impregnated with Carbonic Acid. I think that this solution will form a very valuable addition to the *Materia Medica*, and that it is likely to agree with the system where many of the other Chalybeate preparations are inadmissible ; while its effervescent property and agreeable flavour render it well adapted for very delicate stomachs, and for administration to children.

“ W. T. BRANDE.”

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*From* DR. B. G. BABINGTON, *Physician to Guy's Hospital, &c.*

\* \* “It is the most agreeable of all the preparations of Iron which I have ever met with, whether artificially prepared, or as occurring in mineral springs, and as the Iron is combined with a vegetable acid, and in a state of perfect solution, I cannot doubt that it will prove highly efficacious.”

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*From* DR. S. ASHWELL, *Obstetric Physician and Lecturer to Guy's Hospital, &c.*

“I have now tried the Chalybeate Water of Mr. Bewley many times, and I can quite bear out all which has been said in its favor. In several female diseases, characterized by anæmia, debility, and peculiar irritability of stomach, it has

proved espeeially useful ;—and in some patients, where every other form of Iron had to be laid aside, I am still administering it, without the disagreeable consequences of fever, constipation, or nausea. Its effervescent form and transparency are great recommendations, and the improvement of the quality of the blood, evidenced by a healthier hue of the skin, and by a gradual restoration of strength, assure me that the valuable properties of the Iron have not been sacrificed to its elegance of preparation.

SAMUEL ASHWELL, M.D.

*Grafton-st. Bond-st.*

*December 27th, 1842.*



